WHAT IS CLAIMED IS:

1. An integrating rod comprised of:

an elongated body, said elongated body operable to reflect light traveling through said elongated body;

an entrance face on a first end of said elongated body; and

a mirrored entrance aperture at said entrance face, said mirrored entrance aperture having a transmissive entrance aperture portion and a mirrored portion, said mirrored entrance aperture allowing light to pass through the aperture thereof to enter the elongated body of said integrating rod, said mirrored entrance aperture operable to reflect light traveling through said elongated body to said entrance face that strikes said mirrored entrance aperture outside said transmissive entrance aperture.

2. The integrating rod of Claim 1, wherein said entrance aperture is circular.

3. The integrating rod of Claim 1, wherein said entrance aperture is elliptical.

4. The integrating rod of Claim 1, wherein said entrance aperture is rectangular.

5. The integrating rod of Claim 1, wherein said entrance aperture is centered on said entrance face and surrounded by said mirrored portion of said mirrored entrance aperture.

6. The integrating rod of Claim 1, wherein said mirrored entrance aperture is on said entrance face.

7. The integrating rod of Claim 1, wherein said mirrored entrance aperture is a metal layer deposited on said entrance face.

8. The integrating rod of Claim 1, wherein said mirrored entrance aperture is a mirror positioned next to said entrance face.

9. The integrating rod of Claim 1, said elongated body having a circular cross section.

10. The integrating rod of Claim 1, said elongated body having a rectangular cross section.

11. The integrating rod of Claim 1, said elongated body having a triangular cross section.

12. The integrating rod of Claim 1, said elongated body having a hexagonal cross section.

13. The integrating rod of Claim 1, said elongated body having a square cross section.

14. The integrating rod of Claim 1, wherein said elongated body is tapered.

15. The integrating rod of Claim 1, wherein said elongated body is hollow.

16. The integrating rod of Claim 1, wherein said elongated body is a solid transparent body.

17. The integrating rod of Claim 1, wherein said elongated body is glass.

18. The integrating rod of Claim 1, wherein said light traveling through said elongated body is reflected by mirrored surfaces along said elongated body.

19. The integrating rod of Claim 1, wherein said light traveling through said elongated body is reflected by total internal reflection at an interface between said elongated body and a media surrounding said elongated body.

20. The integrating rod of Claim 19, wherein said media surrounding said elongated body is air.

21. The integrating rod of Claim 1, further comprising a mirrored exit aperture at an exit face of said elongated body, said mirrored exit aperture having a transmissive exit aperture portion and a mirrored exit portion, said mirrored exit aperture allowing light to pass through the aperture thereof after leaving said elongated body of said integrating rod, said mirrored exit aperture operable to reflect light traveling through said elongated body to said exit face that strikes said mirrored exit aperture outside said transmissive exit aperture.

22. The integrating rod of Claim 21, wherein said exit face is opposite said entrance face.

23. The integrating rod of Claim 21, wherein said exit aperture is circular.

24. The integrating rod of Claim 21, wherein said exit aperture is elliptical.

25. The integrating rod of Claim 21, wherein said exit aperture is rectangular.

26. The integrating rod of Claim 21, wherein said exit aperture is centered on said exit face and surrounded by said mirrored portion of said mirrored exit aperture.

27. The integrating rod of Claim 21, wherein said mirrored exit aperture is on said exit face.

28. The integrating rod of Claim 21, wherein said mirrored exit aperture is a metal layer deposited on said exit face.

29. The integrating rod of Claim 21, wherein said mirrored exit aperture is a mirror positioned next to said exit face.

30. A polarizing integrating rod comprised of:

an elongated body, said elongated body operable to reflect light traveling through said elongated body;

an entrance face on a first end of said elongated body;

a mirrored entrance aperture at said entrance face, said mirrored entrance aperture having a transmissive entrance aperture portion and a mirrored portion, said mirrored entrance aperture allowing light to pass through the aperture thereof to enter the elongated body of said integrating rod, said mirrored entrance aperture operable to reflect light traveling through said elongated body to said entrance face that strikes said mirrored entrance aperture outside said transmissive entrance aperture;

a polarizing coating, said polarizing coating transmitting light of a first polarization and reflection light of a second polarization;

a quarter wave plate for receiving light of said second polarization reflected by said polarizing coating and converting said light of a second polarization to said first polarization.